

**ATTORNEY-CLIENT PRIVILEGED CONFIDENTIAL INFORMATION****EXHIBIT A**

Local Docket No. \_\_\_\_\_

Alcatel Reference No. \_\_\_\_\_

**ALCATEL****ALCATEL eND INVENTION DISCLOSURE FORM**

Please e-mail a **soft copy** of this Form to Dave Cordeiro at dave.cordeiro@ind.alcatel.com and send a **signed paper copy** to Dave (818-878-5080) at 26801 W. Agoura Rd., Calabasas, CA 91301. This Form is available on the Alcatel Engineering Website under Patent Information.

**Invention Title: MPLS One Armed Routing****Inventor(s):**

(ALL inventors must be listed whether they still work for Alcatel or not.)

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Inventor Signature(s): 1) \_\_\_\_\_ Date: \_\_\_\_\_

2) \_\_\_\_\_ Date: \_\_\_\_\_

Witness Signatures: I have read and understand this invention disclosure:

1) \_\_\_\_\_ Date: \_\_\_\_\_

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2) \_\_\_\_\_ Date: \_\_\_\_\_

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**FIT (Fiche D'Information Technique)**  
**TECHNICAL INFORMATION SHEET**  
Alcatel eND Invention Disclosure Form

**Title:** MPLS One Arm Routing**Author(s) of this Disclosure:** Guy C Erb**Date:** Friday, March 09, 2001**Originating Business Division/Unit:** CID**Other Affected Business Divisions:****Patent Application Questions (very important):****1 What is the prior art?****2 What is the problem(s) with the prior art?**

(Why were these known/existing solutions not good enough or why do we need your invention?)  
(explain in full detail below)

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**3 How exactly does your invention solve the problem(s) with the prior art?**  
(Please give examples and drawings—Extra pages or specifications should be included)

(What is the technical problem that was solved? Make clear how this is different from existing solutions.)

This invention collapses the PHP device and the E-LSR into a single device whereas they are two devices in current implementations. The invention is detectable by the fact that both functions are present in a single device and no separate configuration of a PHP is needed.

**4 What are the steps from when a packet enters the box to when it leaves the box for your new solution (or when the process or method starts to when the process or method stops)?**  
(explain in full detail)

- 1.) A MPLS packet enters the E-LSR
- 2.) Upon ingress the MPLS encapsulation is "popped" because:
  - a. The MPLS label was a reserved label indicating PHP functionality is required.
  - b. The MPLS label was not reserved but a label lookup indicated it should be popped
- 3.) After the MPLS label is removed (still at ingress) the underlying frame is examined and forwarded appropriately:
  - a. Frame may be bridged
  - b. Frame may be routed (IPX, Ipv4, Ipv6, AppleTalk....)
  - c. Frame may even be routed back out same port (One arm router) either into another MPLS LSP or via its native encapsulation.

**5 Evaluation and usage of the solution:**

- a. Date when the invention was conceived (drawn on white board, etc.) August 2000
- b. Date when the first sketches, diagrams, flow charts, or drawings of any kind were made. August 2000

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(1) Where are they? **Chelan System Requirements Document @ Alcatel Spokane on Spike documentation server.**

(2) Drawing or Notebook Reference Number?

c. Date when first written description of the invention was made. same as above

(1) Where is it?

d. Date when the first explanation of the invention was made to others same as above

(1) Where did this occur? **Alcatel Spokane**

(2) To whom was the explanation made? **Software Engineering**

e. Date when the first prototype of the invention was built (if not done, skip to next question—You do not have to have a prototype to apply for a patent) February 1, 2001

(1) Where was the prototype built? **Alcatel Spokane**

(2) Where is the prototype now? **Integral with ongoing 4.0 software development for PowerRail Distribution Router**

f. Date when the prototype of the invention was first tested (if not done, skip to next question) February 7, 2001

(1) Where was the location of this first test? **Alcatel Spokane labs**

(2) Who witnessed this first test? **Spokane software engineering team**

g. Is either (e) or (g) above planned? If so, when? \_\_\_\_\_

h. Has the new solution been:

- (1) Publicly disclosed;
- (2) Placed in commercial use;
- (3) Offered for sale or sold; or
- (4) Described in a printed publication?

IF YES, when, where, and in what?

i. Date of envisaged first publication or sale or public use of a product using the new solution Summer 2001

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j. Is use in an Alcatel product planned? YES If so, which product? PDR with 4.0 software and Chelan blades

## 6 Standards:

- a. Is it expected that this solution will be proposed to a standardization body? NO
- (1) If so, when? \_\_\_\_\_ To which body? \_\_\_\_\_
- (2) If not, should it be proposed by someone to a standardization body? \_\_\_\_\_ Which body? \_\_\_\_\_
- b. Is there reason to believe that this technical solution is of particular interest for use by competitors? YES
- (1) If so, which competitors? Extreme, RiverStone ...
- (2) Why? Eliminate extra PHP switch and configuration/management issues. Increase flexibility of possible MPLS solutions again via elimination of PHP
- c. Which markets and which kinds of products? Metropolitan Area Network
- (1) For what particular reason? \_\_\_\_\_

## 7 Related Invention Disclosures or Patent Applications (please list):

TMAN (Tunnelled Metropolitan Area Networks) - Transparent Lan Services provided via MPLS LSP.

## 8 Other Useful Information or Remarks:

## 13 References (please list):

[RFC 3032]: *MPLS Label Stack Encoding*, Rosen, et al., January 2001